DOCUMENT RESUME

ED 326 697 CE 056 528

AUTHOR Palmer, Teresa M.
TITLE Human Capital: Current Status in the Fortune 500.
PUB DATE 1 Nov 90
NOTE 15p.; Paper presented at the Annual Meeting of the American Association for Adult and Continuing Education (Salt Lake City, UT, November 1, 1990).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Continuing Education; *Corporate Education; Educational Research; Education Work Relationship; Employer Attitudes; Industrial Training; Inplant Programs; *Labor Force Development; *Manufacturing Industry; *On the Job Training; Questionnaires; *Service Occupations

ABSTRACT

An exploratory study examined what the largest and most successful manufacturing and service companies in the United States are doing to address human capital needs through training and development. A questionnaire was sent to 168 firms from the service sector and 165 from the manufacturing sector, as identified by "Fortune"; 81 responded. Findings indicated that few organizations relied on a wholly centralized training function (only 6.5 percent of service and 8.6 percent of manufacturing firms). Considerably more firms reported wholly decentralized training (17.4 percent of service and 31.4 percent of manufacturing firms). The most common arrangement was to have both (76 percent of service and 60 percent of manufacturing firms). A clear majority of both reported the existence of a separate training department. Responses indicated that human resource planning was done at all levels from chief executive officer and corporate staff to line management. Almost identical percentages from the service and manufacturing sectors, 68.9 percent and 68.6 percent respectively, indicated that their firms had formal policy statements recognizing human resources as an essential corporate asset. Data were collected on kinds of training provided, delivery systems, and time spent on training. (The questionnaire and 30 references are appended.) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED326697

HUMAN CAPITAL: CURRENT STATUS IN THE FORTUNE 500

1990 Adult Education Conference
American Association for Adult and Continuing Education
Salt Lake City, Utah

November 1, 1990

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

T Palmer

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Teresa M. Palmer
College of business
Illinois State University
Normal, IL 61761-6901
(309) 438-7205

CE 056 524

BEST COPY AVAILABLE

HUMAN CAPITAL: CURRENT STATUS IN THE FORTUNE 500

Introduction

During the last five years, the press (business and popular) has devoted increasing attention to the state of the American business and its labor force. It would be difficult for any literate adult to be unaware of the collective concern being expressed by business, labor, economists, various organizations, and the government about the current and future state of human capital in the United States of America.

What is human capital and what does it mean to invest in it? What are the factors which affect the labor force needs? What are current labor force needs? Do we know what future labor needs will be? What is being done to meet current and future needs? This paper focuses on what is being done to address human capital needs by America's largest manufacturing and service companies.

Related Literature

One of the measures commonly used to assess the health of an economy is its productivity--the value of the goods and services produced--and more specifically, the growth in that productivity. Historically, economists have identified the factors of production as land, labor and capital; and increases in productivity have resulted from varying the quantities of these factors used in production.

From early agrarian times to the present, it has been understood that investments made to improve the quality of the land (crop rotation, fertilization, drainage, conservation practices, etc.) result in higher yields. Similarly, the historical experiences of the industrial revolution demonstrate clearly that investments in technology and better tools and equipment can also result in dramatic increases in productivity. Productivity increases from labor have traditionally resulted from the addition of more units of labor (raw labor) and, more recently, from hiring more skilled labor. Investment in the development of labor skills has been primarily individual investment, with the returns from that investment accruing to the individual in the form of higher earnings.

It wasn't until the 1960s and 1970s that economists focused much attention on the development of human capital. The importance of human capital investment has been extensively documented (Schultz, 1981; Becker, 1975; Mincer, 1970). Schultz (1981) recognized that "natural resources, physical capital, and raw labor are not sufficient in developing a highly productive economy. A wide array of human skills are essential...without them the economic prospects are bleak." Investment in human capital is the commitment of resources in those "activities that influence future monetary and psychic income by increasing the resources in people...[that will] improve skills, knowledge, or health" (Becker, 1975). Two of the activities which contribute to the acquisition of human capital are education and training. Education includes schooling which precedes entry to the labor force and that which occurs while individuals are part of the labor force. It may be paid for by

the individual, the employer, or another entity. Additionally, most employers offer "training in conjunction with the production of goods" (Becker, 1975).

Rice (1989) presented empirical evidence that the distribution of physical capital in U.S. manufacturing is more complimentary to human capital in the form of educated labor than to raw labor (uneducated labor). Companies seeking locations for new facilities make no secret of the fact that one of the important requirements of a good site is access to an adequate pool of well-educated, trained labor.

Workplace learning is recognized today as a major contributor to growth in productivity. In the period from 1980-1990 such learning was responsible for more than a 1% increase in the national product, a greater share than any other individual factor. Employers spend $210 billion per year in training and development, $30 billion of that on formal training programs. Employee training by employers is the largest delivery system for adult education in the United States (ASTD, 1986). Approximately 30% of workplace training goes to the technical workforce, which comprises about 18% of the total American workforce (McKenna, 1990). Management today recognizes that training, both technical and non-technical, is an essential part of corporate strategy. In addition to apprenticeship and technical training, Ford prepares for the launch of a new vehicle or component by using a launch training team which begins work two years before that launch (McKenna, 1990).

The current business and social environment has significantly increased pressures to address concerns about the adequacy of our human resources. Demographic projections indicate that the U.S. population in 2080 could be smaller than it is today. Three-quarters of Americans who will be working in 2000 are adults today, but nearly a third of them may be deficient in basic skills (Rhodes and Horner, 1990). Almost two-thirds of the new entrants to the labor pool in the next 10 years will be women. Only about 15% of new entrants will be white males. The remainder will come from a variety of racial and ethnic minorities. (Cross, 1989).

One of the most serious problems facing the changes ahead is the mismatch between future jobs and the people available to fill them. It is estimated that 30% of new jobs in the year 2000 will require college degrees compared to 22% of current jobs. The functional literacy rate among adults is 80% today and approximately one million teenagers drop out of school each year, 70% of them functionally illiterate (Cross, 1989). The U.S. is replacing jobs at the rate of about 10% a year and the half-life of useful information in technical fields is about 5 years (Rhodes and Horner, 1990). Current expenditures on training made by the business sector are significant but not enough to meet our societal needs. Bishop's (1989) empirical study states that employers provided training for two kinds of skills, general and specific. General skills raise the employee's skills both within and outside the organization, while specific skills raise productivity within the organization. The study suggests that the training firm can accurately measure the amount of general training received by its worker, but that other employers cannot. One of the results of this is that there is a tendency to underinvest in general training which is positively related to the separation rate and related negatively to the ability of other firms to predict the amount of general training provided. Workers themselves underinvest in the training because their discount rate is high and the higher returns that they can expect to receive from additional

training are taxed at higher rates. From society's point of view, both employers and employees underinvest in training.

If we, as a nation, are to remain productive and capable of surviving in the competitive marketplace of the future, one of the things which will be essential to success is major commitment to the development of human capital. Training is essential if our labor force is to be able to adapt to changing workplace needs.

This exploratory study was conducted to address the research question,

What are America's largest and most successful manufacturing and service companies doing to address human capital needs through training and development?

Population and Sample

The population included the largest 500 manufacturing and service firms as identified by Fortune. A sample, consisting of six service industries and eight manufacturing industries, was selected to represent a cross-section of each sector. The largest 30 firms (or all if there were fewer than 30) in each selected industry were selected. Total sample size was 333 firms, 168 from the service sector and 165 from the manufacturing sector.

Data Collection

A questionnaire was developed to generate data on the importance of training within the organization. Kinds of training done, delivery systems used, decision-making about training, quantity of training provided, and expenditures on training and development. The questionnaire was reviewed by a group of professionals in human resources and communications and their feedback was used to revise the questionnaire. The revised questionnaire, (Appendix A) with a cover letter and a self-addressed, postpaid return envelope was mailed to the Director of Human Resources at each of the 333 firms.

Data Analysis

Of the 333 questionnaires sent, 81 were returned within the time limit in usable form, for a total return rate of 24%. The overall return rate from the service sector was 27% with the individual return rates within industries ranging from 14% to 48%. The overall return rate in the manufacturing sector was 17%, with the industry return rates ranging from 13% to 30%. Data from the returned questionnaires were analyzed using both quantitative and qualitative techniques. Quantitative techniques included sums, percentages, and ranking of frequencies. Qualitative analysis was used on the responses to open-ended questions and included symbol counts and identification of similar themes. Return rates were too low within industries to allow for interindustry comparisons.

Findings

The data in Table 1 clearly indicate that few organizations rely on a wholly centralized training function. Only 6.5% of the service firms and 8.6%

TABLE 1
Administration of Training within the Organization

	n	Centralized Number/Percent		Decentralized Number/Percent		Both Number/Percent	
All Service	46	3	6.5%	8	17.4%	35	76.1%
All Manufacturing	35	3	8.6%	11	31.4%	21	60%
Combined	81	6	7.4%	19	23.4%	56	69.1%

of the manufacturing firms reported such an arrangement. Considerably more firms reported wholly decentralized training, including 17.4% of service firms and 31.4% of manufacturing firms. By far the most common arrangement for the administration of training within organizations was to have both centralized and decentralized training. Seventy-six percent of service firms and 60% of manufacturing firms reported such an arrangement. When the data from the two sectors was combined, 7.4% indicated that training was a centralized function, 24.4% showed training as a decentralized function, and 69.1% reported both centralized and decentralized training activity.

A clear majority of firms in both the manufacturing and service sectors reported the existence of a separate training department, as shown in Table 2.

TABLE 2
Separate Training Department

	Yes	No
Service	84.8%	15.2%
Manufacturing	73.5%	26.5%
Total	80%	20%

Eighty-four percent of service firms and 73.5% of manufacturing firms indicated such an arrangement. When the sectors were combined, 80% indicated the existence of a separate department responsible for training while 20% lacked a separate department. Twenty percent of all firms responding reported that they did not have separate training departments, including 15.2% of the service firms and 26.5% of the manufacturing firms. In the service sector, the only industry having more than one firm without a separate training department was the utilities industry. In the manufacturing sector there were two industries with multiple respondents indicating no separate training department, chemicals and the food and beverages.

Of those organizations with separate training departments, the overwhelming majority report to the vice presidential level, with some reporting to the senior vice presidential level. A few reported to the head of the company or division, and a few to an assistant vice president, director of HRD, director of personnel, director of management development and succession planning, or manager (level unspecified).

Responses indicate that human resource planning is done at all levels from CEO and corporate staff to line management, with many firms indicating that HR planning is a function in which many different levels are involved. There did not appear to be any distinguishing trends in responses which differentiated among industries or between the manufacturing and service sectors. The one commonality across all categories was the high rate of participation at the vice presidential level or above.

Almost identical percents of respondents from the service and manufacturing sectors, 68.9% and 68.6% respectively, indicated that their firms had formal policy statements recognizing human resources as an essential corporate asset (see Table 3). If respondents are representative of all large manufacturing and service companies, these figures suggest that almost one-third of our large corporations have not yet formally recognized the value of human capital to the extent of incorporating it in their formal written policy statements.

TABLE 3
Formal Policy Recognizing Human Resources as an Essential Corporate Asset

	n	Yes	No
Service	45	68.9%	31.1%
Manufacturing	35	68.6%	31.4%
Both	80	68.8%	31.3%

Nine of the 13 industries included in the study had more than half of the firms responding indicate that their corporate policy related to human resources changed within the last five years. Several themes emerged from the comments on the nature of human resource policy changes:

1. Increased recognition of the importance of human resources to the achievement of business goals;
2. More decentralization in human resources decisions;
3. More formal policy statements related to human resources;
4. Increasing recognition that human resources is an important element to strategic planning;
5. Elevated reporting status of the human resource function.

Sample responses to this question (question 6, Appendix A) included:

"Will be regarded as an essential aspect of the corporate business team."

"Decentralized, instituted flexible benefits."

"Developed strategic HR plan, HR Director elevated to report to Pres. of Div."

"Significant increase in use of HR for strategic planning."

"Places additional responsibility on operating companies to make development happen and to set aside resources for T & D."

"Definitive statement re: importance of HR to achieving our business goals."

"We actually developed a policy statement that relates to all key areas of HR--staffing, comp. & benefits, T & D, etc.--we never had a written policy prior to that."

"More awareness on value of people in achieving corp. goals."

Of the total responses to the question "Do you anticipate that it [corporate policy] will change in the near future?," 52.6% said yes and 47% said no. There was little difference between the manufacturing and service sectors.

Table 4 shows the kinds of training provided most often in the service and manufacturing sectors. Percents reflect the percent of those responding

TABLE 4
Kinds of Training Provided

	Service	Manufacturing	Both
New Employee Orientation	95.7%	74.3%	86.4%
Current Job Needs	91.3%	77.1%	85.2%
Preparation for Organizational Change	41.3%	54.3%	46.9%
Customer/Client Relations	87.0%	65.7%	77.8%
Employee Involvement	43.5%	51.4%	46.9%
Future Job Needs	32.6%	43.9%	37.0%
Personal Development	80.4%	65.7%	74.1%
Technological Change	80.4%	68.6%	75.3%
Global Marketplace	17.4%	31.4%	23.5%
Other	6.5%	20.0%	12.3%

Respondents could check more than one catgory.

to the question who indicated offering the kind of training for each sector and then for both of the sectors combined. It appears that the manufacturing sector provides slightly less training overall than the service sector in most categories.

The decision about what training an employee will engage in is made in very similar ways in the service and manufacturing sectors, as shown in Table 5. Most commonly it is a joint decision, with the next most common being a decision made by the supervisor. The third most common arrangement was for the employee to make the decision to engage in training.

TABLE 5
Who Makes the Training Decision

	Service	Manufacturing	Both
Employee	37.8%	34.4%	36.4%
Supervisor	51.1%	46.9%	49.4%
Management	22.2%	31.3%	26.0%
Training Department	22.2%	21.9%	22.1%
Joint Decision	71.1%	75.0%	72.8%
Other	4.4%	3.1%	3.9%

More than one response was possible.

All industries used a wide variety of delivery systems to provide training for their employees (see Table 6), with six of the seven kinds of programs identified on the questionnaire offered by more than half of the respondents in both manufacturing and service. Almost all firms in both sectors reported offering programs developed in-house. College/university tuition reimbursement programs were also very common, although the manufacturing sector was almost twice as likely to offer in-house college/university programs as the service sector. In addition to delivery systems identified in the questionnaire, respondents identified executive development programs at university centers, vocational/technical training, computer-based training, and self-study programs as belonging to the "other" category.

TABLE 6
Delivery System for Training by Sector

	Service		Manufacturing	
	Rank	% Using	Rank	% Using
Programs Developed In-house	1	95.7%	1*	96.8%
College/University Tuition Reimbursement	2	89.1%	1*	96.8%
Purchased Programs, Delivered In-house	3	78.3%	5	83.9%
External Consultant	4	73.9%	4	87.1%
Custom Training-Vendor	5*	69.6%	6	80.1%
Open Enrollment Programs - External	5*	69.6%	3	93.5%
College/University In-house	7	28.3%	7	48.4%

*Tied for rank.

Responses to the question asking how much is spent on training were difficult to analyze, as expected. The most common response was "no response." The next most common was that the answer was "unknown." A variety of explanations for this lack of data were offered, including:

"data untracked--each department pays for own training our of their operations budget (no separate line item)."

Centralized training budget is microscopic but doesn't reflect amount actually spent."

"No specific data."

"because of decentralization HR doesn't track what depts. do."

"have not been tracked."

Several respondents indicated that the information was confidential. Of those who provided a measure of spending for training, figures ranged from .1% of sales to 1% of revenues, from $420 per employee per year to $1,000 per employee per year, to 1% of departmental budgets. It was apparent that there is no uniformity of reporting of such figures within firms.

The average annual number of days of training per employee, by industry and sector are presented in Tables 7 and 8. Responses from both open-ended categories were omitted from the calculation of the industry averages. Within the service industry, the range extended from 2.55 in the utilities industry to 6.00 in the retailing industry. That range was even wider in the manufacturing sector, from 2.00 in the pharmaceutical industry to 6.00 in the industrial industry. Clearly there is a great deal of variation in the average quantity of training provided to employees among industries. The

TABLE 7

Average Annual Days of Training Per Employee
Service Sector

Industry	$\bar{X}$ (days)
Insurance	5.14
Retailing	6.00
Transportation	5.50
Utilities	2.55
Service	4.89
Financial	3.67
All Service	4.63

TABLE 8

Average Annual Days of Training Per Employee
Manufacturing Sector

Industry	$\bar{X}$ (days)
Chemicals	5.20
Computers	3.00
Food & beverage	5.43
Industrial	6.00
Pharmaceutical	2.00
Publishing	5.00
Textiles	5.00
All Manufacturing	4.52

figures shown for "all service" and "all manufacturing" were calculated using the means for the industries within each sector. The numbers suggest that there may be a difference between the two sectors in the investment in human capital in the form of training.

Conclusions and Implications

This study raises far more questions than it answers. That is a function of both the exploratory nature of the study and the relatively small number of responses. There are two general conclusions which appear to be warranted by the data:

1. We are in a time in which corporations have been and are in the process of re-evaluating the importance of human capital to the achievement of organizational goals. The recognition of that increased importance is shown through changes in policy statements and higher levels of reporting for the human resource area within the organization.

2. Formal mechanisms for identifying and tracking investments in human capital investments are sketchy at best in most industries.

Additionally there are several implications suggested by the data which would require further studies to substantiate, including:

1. The administration of the training function appears to be more decentralized in manufacturing than in service.

2. Manufacturing appears to provide more training linked to future job needs than service.

3. The service sector appears to provide more training per employee than the manufacturing sector.

Further examination of these and other issues raised or suggested by this study should provide information useful to corporations, industry groups, labor, providers of education and training, and society in general for determining how well we are meeting the challenge of today's competitive world marketplace.

APPENDIX A

TRAINING & DEVELOPMENT QUESTIONNAIRE

Please answer the following questions about training and development within your organization.

1. Is training activity ___centralized ___decentralized ___both

2. Does your organization have a separate department responsible for training? ___yes ___no

3. To what level does the training department report?
_____

4. At what level is human resource planning done?
_____

5. Does your organization have a formal policy which recognizes human resources as an essential corporate asset? ___yes ___no

6. Has corporate policy related to human resources changed within the last 5 years? ___yes ___no

   Please comment on the nature of these changes
   _____
   _____
   _____

7. Do you anticipate that it will change in the near future? ___yes ___no

   Please comment on the nature of expected changes
   _____
   _____
   _____

8. For which of the following does your company provide (or pay for) training? (check all that apply)
   _____orientation to company for new employees
   _____current job needs (skills and knowledge)
   _____preparation for organizational change
   _____customer/client relations
   _____employee involvement
   _____future job needs
   _____personal development for employees
   _____training related to technological change
   _____training related to competing in a global marketplace
   _____other - please specify
   _____
   _____
   _____

9. Who makes the decision about what training an employee will engage in?
   ____the employee
   ____the employee's supervisor
   ____management
   ____training department
   ____it is a joint decision
   ____other (please specify) _____

10. Which of the following methods does your company use to deliver training to its employees? (check all that apply)
   ____programs developed in-house
   ____purchased programs, delivered by your staff in-house
   ____customized training purchased from vendor
   ____external consultant
   ____send employees to open enrollment programs
   ____college/university credit programs offered in-house
   ____college/university tuition reimbursement program
   ____other (specify) _____

11. Approximately how many days annually is the average employee engaged in training and development activities?
   ____less than 1 day
   ____1 to 3 days
   ____3 to 5 days
   ____5 to 7 days
   ____7 to 9 days
   ____9 to 11 days
   ____11 to 13 days
   ____13 or more days Approximate number of days ____

12. What percent of revenues are spent annually on the training and development of human resources in your company? Use whatever terms your organization uses to report such data.

_____

_____

_____

Thank you very much for taking the time to complete this questionnaire. If you would like to receive a summary of the data analysis, please provide a mailing address below.

Teresa M. Palmer
Business Education & Administrative Services
Illinois State University
Normal, IL 61761

BIBLIOGRAPHY

ASTD. (1986). Serving The New Corporation. The American Society for Training and Development, Alexandria, VA.

ASTD. (1989). Training America: Learning To Work For The 21st Century. The American Society for Training and Development, Alexandria, VA.

Becker, G. (1975). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, second edition. The University of Chicago Press, Chicago.

Blaug, M. (1970). Economics of Education, second edition. London.

Canabal, M. and Larson, D. (1990). Teenager's labor force experience. Paper presented at the Annual Meeting of the American Council on Consumer Interests, New Orleans, March.

Cross, L. (1989). The changing workforce. Graphic Arts Monthly, 61(6), 38-45.

D'Amico, R. (1984). Does employment during high school impair academic progress. Sociology of Education, 57, 152-163.

Greenberger, E. (1986). The perils of teenage employment. U.S. News and World Report, 101, 94.

Greenberger, E. and Steinberg, L.D. (1986). When Teenagers Work. New York: Basic Books, Inc.

Hallet, J.J. (1987). Our most important asset? Personnel Administrator, 32,(12), 22-25.

Klein, E. (1990). Tomorrow's work force. D&B Reports, 38(1), 30-34.

Lloyd, T. (1989). Winning the budget battle. Training, 26(5), 55-62.

Manzi, P. (1987). Job stress in teenage employment. Vocational Educational Journal, 62, 20.

McKenna, J.F. (1990). Take the 'A' training. Industry Week, 239, 22-29.

McNeil, L. (1984). Lowering Expectations: The Impact of Student Employment on Classroom Knowledge. Madison, WI: Wisconsin Center for Educational Research.

Meyer, K.A. (1987). The work commitment of adolescents: Progressive attachment to the work force. Career Development Quarterly, 36, 140-147.

Mincer, J. (1970). The distribution of labor incomes: A survey with special reference to the human capital approach. Journal of Economic Literature, 8(1), 1-26.

National Manpower Institute (1978). Work and Service Experience for Youth. Work-Education Consortium. Washington, D.C.: U.S. Government Printing Office.

National Panel on High School and Adolescent Education, (1976). The Education of Adolescents. Washington, D.C.: U.S. Government Printing Office.

Peters, J.F. (1987). Youth, family, and employment. Adolescence, 22, 465-473.

Rhodes, F.H.T. and Horner, L.D. (1990). Education, human capital, and the public agenda. Chief Executive, 50-54.

Rice, G.R. (1989). Capitol-skill complementarity and the interregional distribution of human capital in US manufacturing. Applied Economics, 21(8), 1087-1098.

Schultz, T.W. (1981). Investing in People: the Economics of Population Quality. University of California Press, Berkeley.

Stein, B. (1990). Human capital: A chilling fable for America. Business Month, 135, 10-11.

Stein, J. (1989). The high cost of not training. Computerworld, 23, 124.

Steinberg, L.D., Greenberger, E., Garduque, L., Ruggiero, M. and Vaux, A. (1982). Effects of working on adolescent development. Developmental Psychology, 18(3), 385-395.

The Fortune 500. (1989). Fortune, 119(6), 380-383, 386-387, 389, 392-393.

The Service 500. (1989). Fortune, 119(9), 360-361, 370-371, 358-359, 382-385, 376-379.

UNESCO (1968). Readings in the economics of education. United Nations Educational Scientific and Cultural Organization, Paris, France.

Williams, F.L. and Prohofsky, S. (1986). Teenagers' perception of agreement over family expenditures, employment, and family life. Journal of Adolescence, 15(3), 243-257.